

BEST AVAILABLE COPY



Docket No. \_\_\_\_\_ In re: ☒ patent/\_\_\_\_\_ trademark application of

Applicant(s) T. Rappaport et al

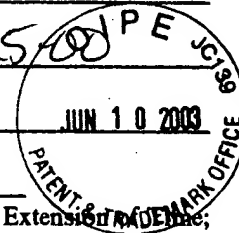
Serial No. 09/668145 Date Filed 9-25-00

Papers filed herewith on 6-10-03

\_\_\_\_ Fees \$ \_\_\_\_\_ Deposit Account No. (if applicable) \_\_\_\_\_  
( \_\_\_\_\_ filing fee; \_\_\_\_\_ Assignment charge; \_\_\_\_\_ Extension fee; \_\_\_\_\_ issue fee/advance copies; \_\_\_\_\_ other \_\_\_\_\_ )

\_\_\_\_ Amendment \_\_\_\_\_ Notice of Appeal \_\_\_\_\_ Appeal Brief  
\_\_\_\_ Sheets of \_\_\_\_\_ Drawings \_\_\_\_\_ Proposed Drawing Corrections (w/ \_\_\_\_\_ drawings)  
\_\_\_\_ Change of Address \_\_\_\_\_ Request for Extension of Time  
\_\_\_\_ Assignment \_\_\_\_\_ Recordation Form Cover Sheet  
☒ Information Disclosure Statement ☒ PTO-1449 and associated art (157 docs.)  
\_\_\_\_ Priority Document(s) \_\_\_\_\_ Other \_\_\_\_\_

02560038AA MEW:CMA



02560038AA



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of  
T. RAPPAPORT ET AL.

Serial No.: 09/668,145

Group Art Unit: 2122

Filed: September 25, 2000

Examiner: not yet assigned

For: SYSTEM AND METHOD FOR DESIGN, TRACKING, MEASUREMENT,  
PREDICTION AND OPTIMIZATION OF DATA COMMUNICATION NETWORKS

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Under the provisions of 37 C.F.R. 1.97 through 1.99 and pursuant to applicant's duty of disclosure under 37 C.F.R. 1.56, applicant respectfully brings the following documents, listed on the attached form PTO-1449, to the attention of the Examiner in charge of the above-identified application. Copies of the listed documents are provided herewith for the convenience of the Examiner.

This citation does not constitute an admission that the references are relevant or material to the claims. They are only cited as constituting related art of which the applicant is aware.

It is respectfully requested that the listed references be considered by the Examiner and formally made of record in this application.

Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

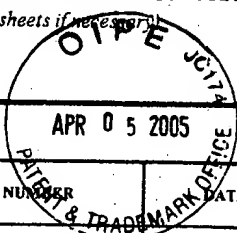
A handwritten signature in black ink, appearing to read 'Michael E. Whitham', written over the typed name.

Michael E. Whitham  
Registration No.: 32,635

Whitham, Curtis & Christofferson, PC  
11491 Sunset Hills Road, Suite 340  
Reston, Virginia 20190  
703-787-9400

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)



Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1	4,675,147	6-23-87	Schaefer et al.			4-6-83
	2	4,736,453	4-5-88	Schloemer			12-10-85
	3	4,885,694	12-5-89	Pray et al.			4-29-87
	4	5,111,392	5-5-92	Malin			6-9-89
	5	5,119,307	6-2-92	Blaha et al.			12-22-89
	6	5,239,487	8-24-93	Horejsi et al.			10-24-90
	7	5,293,640	3-8-94	Gunmar et al.			
	8	5,307,261	4-26-94	Maki et al.			6-28-91
	9	5,337,149	8-9-94	Kozah et al.			11-12-92
	10	5,339,184	8-16-94	Tang			6-15-92
	11	5,375,123	12-20-94	Andersson et al.			2-5-93

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE

(Use several sheets if necessary)

APR 05 2005

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	12	5,394,522	2-28-95	Sanchez-Frank et al.			9-13-93
	13	5,450,615	9-12-95	Fortune et al.			12-22-93
	14	5,458,123	10-17-95	Unger			4-29-94
	15	5,465,390	11-7-95	Cohen			2-12-93
	16	5,482,050	1-9-96	Smokoff et al.			2-17-94
	17	5,485,568	1-16-96	Venable et al.			10-8-93
	18	5,491,644	2-13-96	Pickering et al.			9-7-93
	19	5,491,837	2-13-96	Haartsen			3-7-94
	20	5,493,679	2-20-96	Virgil et al.			10-29-93
	21	5,515,269	5-7-96	Willis et al.			11-8-93
	22	5,528,518	6-18-96	Bradshaw et al.			10-25-94

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

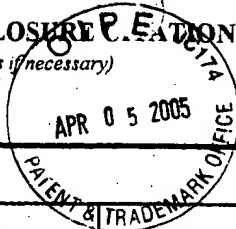
## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE**  
(Use several sheets if necessary)



Docket Number (Optional) <b>02560038AA</b>		Application Number <b>09/668,145</b>
Applicant(s) <b>T. Rappaport et al.</b>		
Filing Date <b>9/25/00</b>	Group Art Unit	

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	23	5,539,665	7-23-96	Lamming et al.			7-25-94
	24	5,553,312	9-3-96	Gatley et al.			6-20-94
	25	5,553,620	9-10-96	Snider et al.			5-2-95
	26	5,555,354	9-10-96	Strasnick et al.			3-23-93
	27	5,561,841	10-1-96	Markus			
	28	5,564,070	10-8-96	Want et al.			7-30-93
	29	5,594,946	1-14-97	Menich et al.			2-28-95
	30	5,598,532	1-28-97	Liron			10-21-93
	31	5,625,827	4-29-97	Krause et al.			12-23-94
	32	5,636,344	6-3-97	Lewis			8-22-91
	33	5,689,355	11-18-97	Okubo et al.			7-1-96

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APR 05 2005

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	34	5,761,093	6-2-98	Urbish et al.			5-8-97
	35	5,794,128	8-11-98	Brockel et al.			9-20-95
	36	5,799,154	8-25-98	Kuriyan			6-27-96
	37	5,809,282	8-15-98	Cooper et al			6-7-95
	38	5,815,395	9-29-98	Hart et al.			6-29-95
	39	5,828,960	10-27-98	Tang et al.			3-31-95
	40	5,831,610	11-3-98	Tonelli et al.			2-23-96
	41	5,832,389	11-3-98	Dent			4-3-96
	42	5,861,887	1-19-99	Butler et al.			12-5-95
	43	5,867,112	2-2-99	Kost			5-14-91
	44	5,877,777	3-2-99	Colwell			4-7-97

## FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APR 05 2005

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	45	5,878,328	3-2-99	Chawla et al.			12-21-95
	46	5,907,850	5-25-99	Krause et al.			1-21-97
	47	5,917,808	6-29-99	Kosbab			1-17-97
	48	5,923,850	7-13-99	Barroux			6-28-96
	49	5,926,762	7-20-99	Arpee et al.			5-17-96
	50	5,940,196	8-17-99	Piehler et al.			5-16-97
	51	5,945,976	8-31-99	Iwamura et al.			12-10-96
	52	5,948,055	9-7-99	Pulsipher et al.			8-29-96
	53	5,949,335	9-7-99	Maynard			4-14-98
	54	5,949,988	9-7-99	Feisullin et al.			4-3-97
	55	5,953,669	9-14-99	Stratis et al.			12-11-97

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



# INFORMATION DISCLOSURE CATION

(Use several sheets if necessary)

APR 05 2005

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	56	5,963,867	10-5-99	Reynolds et al.			8-16-95
	57	5,970,406	10-19-99	Komara			12-31-96
	58	5,987,328	11-16-99	Ephremides et al.			4-24-97
	59	6,006,021	12-21-99	Tognazzini			7-1-96
	60	6,018,625	1-25-00	Hayball et al.			8-27-97
	61	6,021,316	2-1-00	Heiska et al.			
	62	6,032,105	2-29-00	Lee et al.			7-31-97
	63	6,038,547	3-14-00	Casto			1-7-98
	64	6,044,273	3-28-00	Tekinay			12-10-96
	65	6,058,102	5-2-00	Drysdale et al			11-6-98
	66	6,058,262	5-2-00	Kawas et al.			4-18-97

## FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

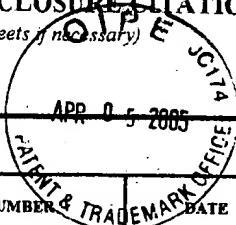

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)



Docket Number (Optional) <b>02560038AA</b>		Application Number <b>09/668,145</b>
Applicant(s) <b>T. Rappaport et al.</b>		
Filing Date <b>9/25/00</b>	Group Art Unit	

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	67	6,059,842	5-9-00	Dumarot et al.			4-14-98
	68	6,061,722	5-9-00	Lipa et al.			12-23-96
	69	6,075,541	6-13-00	Maclinovsky			11-7-97
	70	6,088,522	7-11-00	Lee et al.			7-31-97
	71	6,104,699	8-15-00	Holender et al.			
	72	6,108,309	8-22-00	Cohoe et al.			12-8-97
	73	6,111,857	8-29-00	Soliman et al.			9-11-97
	74	6,122,083	9-19-00	Ohta et al.			10-3-94
	75	6,148,010	11-14-00	Sutton et al.			6-24-98
	76	6,199,032	3-6-01	Anderson			7-22-98
	77	6,204,813	3-20-01	Wadell et al.			2-20-98

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

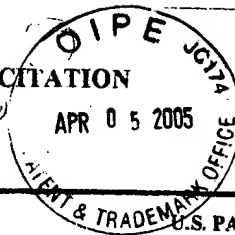
## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)



Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	78	6,208,833	3-27-01	Preschutti et al.			6-24-97
	79	6,229,540	5-8-01	Tonelli et al.			10-13-98
	80	6,253,086	6-26-01	Parantainen et al.			3-25-99
	81	6,285,377	9-4-01	Greenbaum et al.			6-26-97
	82	6,289,203	9-11-01	Smith et al.			2-25-98
	83	6,317,599	11-13-01	Rappaport et al.			5-26-99
	84	6,326,987	12-4-01	Alexander			12-19-00
	85	6,330,005	12-11-01	Tonelli et al.			10-6-99
	86	6,311,144	10-30-01	Abu El Ata			7-31-98
	87	6,337,688	1-8-02	Berstis			1-29-99
	98	6,338,031	1-8-02	Lee et al.			9-23-99

## FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APR 05 2005

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	89	6,356,758	3-12-02	Almeida et al.			12-31-97
	90	6,393,432	5-21-02	Flansburg et al.			6-2-99
	91	6,408,312	6-18-02	Forthman et al.			8-30-99
	92	6,442,507	8-27-02	Skidmore et al.			12-29-98
	93	6,470,195	10-22-02	Meyer			10-31-00
	94	6,487,417	11-26-02	Rossoni et al.			11-24-99
	95	6,493,679	12-10-02	Rappaport et al.			5-26-99
	96	6,496,290	12-17-02	Lee			12-17-98
	97	6,499,006	12-24-02	Rappaport et al.			7-14-99
	98	6,505,045	1-7-03	Hills et al.			4-10-00
	99	5,586,254	12-17-96	Kondo			

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

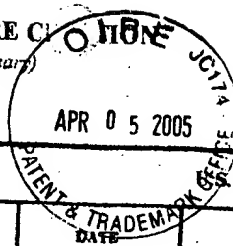

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CARD

(Use several sheets if necessary)



Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	100	6,085,335	7-4-00	Djoko et al.			12-31-97
	101	5,710,758	1-20-98	Soliman et al.			9-29-95
	102	5,821,937	10-13-98	Tonelli et al.			8-12-96
	103	5,774,669	6-30-98	George et al.			7-28-95
	104	5,802,146	9-1-98	Dulman			11-22-95
	105	5,825,759	10-20-98	Liu			7-24-95
	106	5,845,124	12-1-98	Berman			5-1-96
	109	6,199,032	3-6-01	Anderson			7-22-98
	110	5,467,441	11-14-95	Stone et al.			10-6-94
	111	6,243,772	6-5-01	Ghori et al.			1-31-97
	112	5,994,984	11-30-99	Stancil et al.			5-29-98

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

1

2

EXAMINER

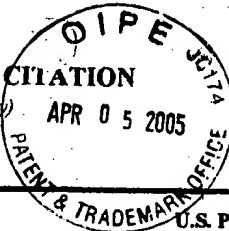
DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APR 05 2005



Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	113	5,977,851	11-2-99	Stancil et al.			11-13-97
	114	5,755,072	5-26-98	Lingafelter			5-13-98

## FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO

## OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

		From Bird's Eye Real-time Mapping Software dated 6-30-02
		IEEE Transactions on Antennas and propagation, Vol. 46, No. 8, August 1998. "Effect of Terrain on Path Loss in Urban Environments for Wireless Applications" Leonard Piazzi and Henry L. Bertoni

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

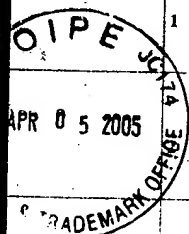
Filing Date

9/25/00

Group Art Unit

\*EXAMINER  
INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)



1 P. Bahl, V. Padmanabhan, and A. Balachandran, "A Software System for Locating Mobile Users: Design, Evaluation, and Lessons," Microsoft Technical Report, April 2000

2 G. Durgin, T.S. Rappaport, H. Xu, Measurements and Models for Radio Path Loss and Penetration Loss in and Around Homes and Trees at 5.85 GHz," IEEE Transactions on Communications, vol. 46, no. 11, November 1998.

3 C.M. Peter Ho et al., "Antenna Effects on Indoor Obstructed Wireless Channels and a Deterministic Image-Based Wide-Band Propagation Model for In-Building Personal Communications Systems," International Journal of Wireless Information Networks, Vol. 1, No. 1, 1994.

4 S. Kim et al., "Radio Propagation Measurements and Predictions Using Three-dimensional Ray Tracing in Urban Environments at 908 MHz and 1.9 GHz," IEEE Transactions on Vehicular Technology, vol. 48, no. 3, May 1999

5 T.S. Rappaport et al., "Use of Topographic Maps with Building Information to Determine Antenna Placements and GPS Satellite Coverage for Radio Detection and Tracking in Urban Environments," MPRG Technical Report MPRG-TR-95-14, Virginia Tech, September 1995

6 R.K. Morrow, Jr. and T.S. Rappaport, "Getting In," Wireless Review Magazine, March 2000.

7 Wireless Valley Communications, Inc., "SitePlanner 3.16 for Windows 95/98/NT User's Manual," Software User's Manual, pp.5-148 to 5-156, 1999.

8 M. Panjwani et al., "Interactive Computation of Coverage Regions for Wireless Communication in Multifloored Indoor Environments," IEEE Journal on Selected Areas in Communications, Vol. 14, No. 3, April 1996.

9 L. Piazzi and H.L. Bertoni, "Achievable Accuracy of Site-Specific Path-Loss Predictions in Residential Environments" IEEE Transactions on Vehicular Technology, vol. 48, no. 3, May 1999.

10 T.S. Rappaport et al., "Wireless Communications: Past Events and a Future Perspective", IEEE Communications Magazine, May 2002.

11 T.S. Rappaport et al., "Radio Propagation Prediction Techniques and Computer-Aided Channeling Modeling for Embedded Wireless Microsystems," ARPA Annual Report, MPRG Technical Report MPRG-TR-94-12, Virginia Tech, July 1994.

12 T.S. Rappaport et al., "Use of Topographic Maps with Building Information to Determine Antenna Placements for Radio Detection and Tracking in Urban Environments," MPRG Technical Report MPRG-TR-95-14, Virginia Tech, November 1995

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

EXAMINER  
INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

13 D. Ullmo et al., "Wireless Propagation in Buildings: A Statistical Scattering Approach," IEEE Transactions on Vehicular Technology, Vol. 48, No. 3, May 1999.

14 T.S. Rappaport, "wireless Communications: Principles and Practice" Second Edition, Prentice Hall, 2002.

15 T.S. Rappaport et al., "Use of Topographic Maps with Building Information to Determine Antenna Placements and GPS Satellite Coverage for Radio Detection and Tracking in Urban Environments," MPRG Technical Report MPRG-TR-95-14, Virginia Tech, September 1995.

16 T.S. Rappaport et al., "Indoor Path Loss Measurement for Homes and Apartments at 2.4 and 5.85 GHz," private report produced for Motorola, December 16, 1997.

17 T.S. Rappaport, "Isolating Interference," Wireless Review Magazine, May 2000.

18 Slides from T.S. Rappaport and R. Skidmore, "Introduction to In-Building Wireless Systems," Infocast In-Building Wireless Solutions Conference and Exposition, February 4, 2003.

19 S. Sandhu, M.P. Koushik, and T.S. Rappaport "Predicted Path Loss for Roslyn VA, First set of predictions for ORD Project on Site Specific Propagation Prediction," MPRG Technical Report MPRG-TR-94-20, Virginia Tech, December 1994

20 S. Sandhu, M.P. Koushik, and T.S. Rappaport, "Predicted Path Loss for Roslyn VA, First set of predictions for ORD Project on Site Specific Propagation Prediction," MPRG Technical Report MPRG-TR-94-20, Virginia Tech, March 1995

21 S. Seidel et al., "Site-Specific Propagation Prediction for Wireless In-Building Personal Communication Design," IEEE Transactions on Vehicular Technology, Vol. 43, No. 4, November 1994.

22 S. Shakkottai and T.S. Rappaport, "Research Challenges in Wireless Networks: A Technical Overview," Proceeding of the Fifth International Symposium on Wireless Personal Multimedia Communications, Honolulu, HI, October 2002.

23 H. Sherali et al., "On the Optimal Location of Transmitters for Micro-cellular Radio Communication System Design," IEEE Journal on Selected Areas in Communications, Vol. Vol. 14, No. 3, pp. 662-673, May 1996.

24 R. Skidmore et al., "A Comprehensive In-Building and Microcellular Wireless Communication System Design Tool" The Bradley Department of Electrical Engineering, MPRG-TR-97-13, June 1997.  
Master's Thesis - unpublished by Virginia Tech for 2 years after submission.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary).

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

\*EXAMINER  
INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

24

R. Skidmore, et al., Russell Senate Office Building Propagation Study, Project Report for Joseph R. Loring & Associates; "Project Update," AoC Contract # Acbr96088, prepared for Office of the Architect of the Capitol, January 19, 1997.

25

R. Skidmore, et al., Russell Senate Office Building Propagation Study, Project Report for Joseph R. Loring & Associates; "Assessment and Study of the Proposed Enhancements of the Wireless Communications Environment of the Russell Senate Office Building (RSOB) and Associated Utility Tunnels," AoC Contract # Acbr96088, prepared for Office of the Architect of the Capitol, February 20, 1997.

26

R. Torres et al., "CINDOOR: An Engineering Tool for Planning and Design of Wireless Systems in Enclosed Spaces," IEEE Antennas and Propagation Magazine, Vol. 41, No. 4 August 1999.

27

R. Skidmore et al., "Interactive Coverage Region and System Design Simulation for Wireless Communication Systems in Multi-Floored Indoor Environments: SMT Plus *tm*," IEEE ICUPC Proceedings, 1996.

T.S. Rappaport et al., "Radio Propagation Prediction Techniques and Computer-Aided CHannel Modeling for Embedded Wireless Microsystems," MPRG Tech. Report MPRG-TR-95-08, Virginia Tech, July 1995.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

BEST AVAILABLE COPY

PROB/REV04

SHEET 14 OF 15

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

02560038AA

Application Number

09/668,145

Applicant(s)

T. Rappaport et al.

Filing Date

9/25/00

Group Art Unit

\*EXAMINER  
INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Company Web Page "Actix" www.actix.com product name: E-NOS ( now E-AMS)

Company Web Page " Agilent" www.agilent.com product name: OPAS32

Company Web Page " Agilent " www.agilent.com product name: Wizard

Company Web Page " Comarco" www.edx.com product name: SignalPro

Company Web Page " ComOpt" www.comopt.com. product name: CellOpt AFP

Company Web Page " Lucent" www.bell-labs.com product name: WiSE

Company Web Page " Ericsson" www.ericsson.com product name: TEMS Lite

Company Web Page " Ericsson" www.ericsson.com product name: TEMS

Company Web Page " Marconi" www.marconi.com product name: PlaNET

Company Web Page " Marconi" www.marconi.com product name: decibelPlanner

Company Web Page " Schema"www.schema.com product name: Optimizer

Company Web Page " ScoreBoard" www.scoreboard.com product name: ScoreBoard

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.